0.8A SURFACE MOUNT GLASS PASSIVATED BRIDGE RECTIFIER

NEW PRODUCT

Product Summary (@T_A = +25°C)

V_{RRM} (V)	I_O (A)	V_F (V)	I_R (µA)
1000	0.8	1.1	5

Features and Benefits

- Glass Passivated Die Construction
- Miniature Package Saves Space on PC Boards
- Reliable Robust Construction
- Ideal for SMT Manufacturing
- Low Forward Voltage Drop
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

Description and Applications

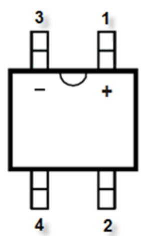
Suitable for AC to DC bridge full wave rectification for SMPS, LED lighting, adapter, battery charger, home appliances, office equipment, and telecommunication applications.

Mechanical Data

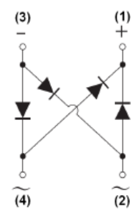
- Case: MBF
- Case Material: Molded Plastic.
  UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Lead Free Plating (Matte Tin Finish).
  Solderable per MIL-STD-202, Method 208 (e3)
- Polarity: As Marked on Body
- Weight: 0.08 grams (Approximate)



Top View



Pin Diagram



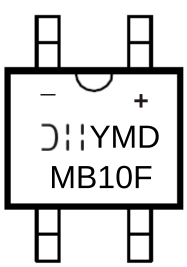
Internal Schematic

Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
MB10F-13	Commercial	MBF	5,000/Tape & Reel

Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. For packaging details, go to our website at http://www.diodes.com/products/packages.html.

Marking Information



MB10F= Product Type Marking Code
⊃¦¦ = Manufacturers' Code Marking
YMD = Date Code Marking
Y = Last Digit of Year (ex: 7 = 2017)
M = See Month/Code Table Below
D = Day 1~9 =1~9; Day 10~31= A~V

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

NEW PRODUCT

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	1,000	V
RMS Reverse Voltage	$V_{R(RMS)}$	700	V
Average Rectified Output Current (Note 5) @ T_A = +125°C @T_A = +110°C	I_O	0.5 0.8	A
Non-Repetitive Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	30	A
I^2t Rating for Fusing (1ms < t < 8.3ms)	I^2t	3.74	A^2S

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Ambient (Note 6) (Per Element)	$R_{\theta JA}$	63	°C/W
Typical Thermal Resistance, Junction to Lead (Per Element)	$R_{\theta JL}$	39	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 7)	$V_{(BR)R}$	1,000	—	—	V	I_R = 5µA
Forward Voltage (Per Element)	V_F	—	0.94	1.1	V	I_F = 0.8A, T_A = +25°C
Leakage Current (Note 7) (Per Element)	I_R	— —	0.2 14	5 500	µA	V_R = 1,000V, T_A = +25°C V_R = 1,000V, T_A = +125°C
Total Capacitance (Per Element)	C_T	—	8	—	pF	V_R = 4V, f = 1.0MHz

Notes: 5. Device mounted on FR-4 substrate, 1"*1", 2oz, single-sided, PC boards with 0.1"*0.15" copper pad.
6. Device mounted on FR-4 substrate, 1"*1", 2oz, single-sided, PC boards with 0.56"*0.73" copper pad.
7. Short duration pulse test used to minimize self-heating effect.

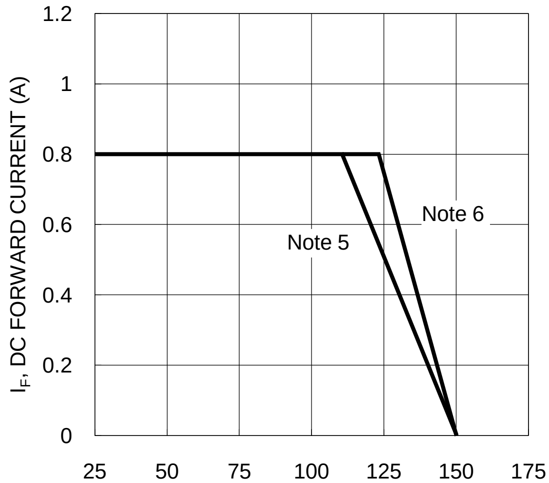


Figure 1. DC Forward Current Derating

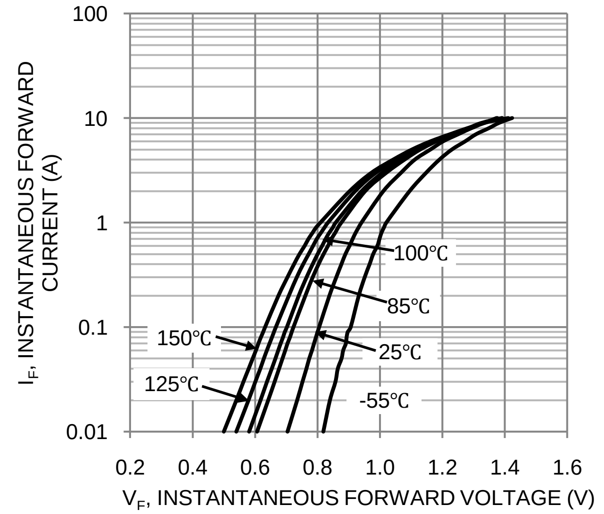


Figure 2. Typical Forward Characterstics (Per Element)

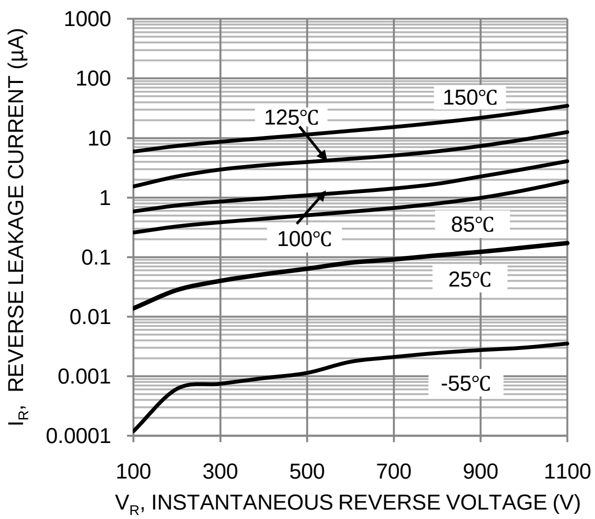


Figure 3. Typical Reverse Characterstics (Per Element)

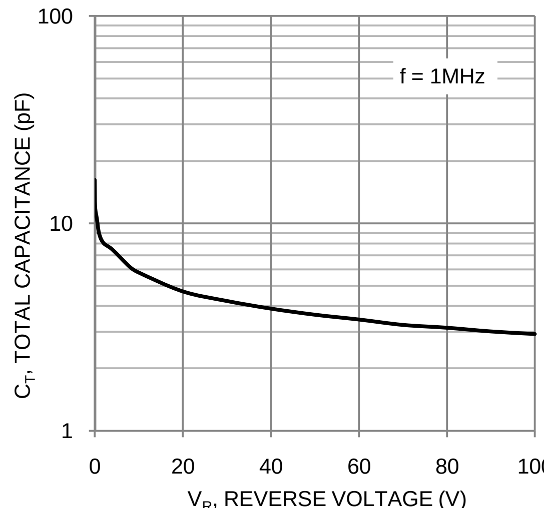


Figure 4. Typical Total Capacitance

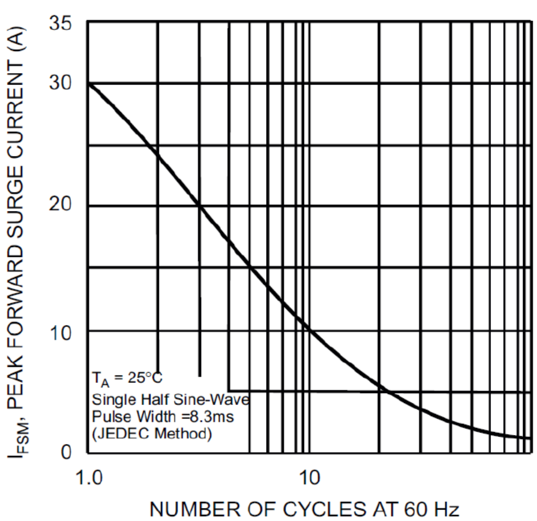


Figure 5. Maximum Peak Forward Surge Current (Per Leg)

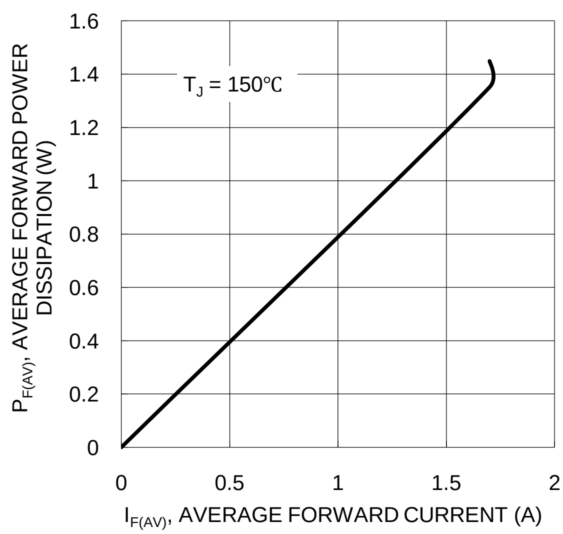
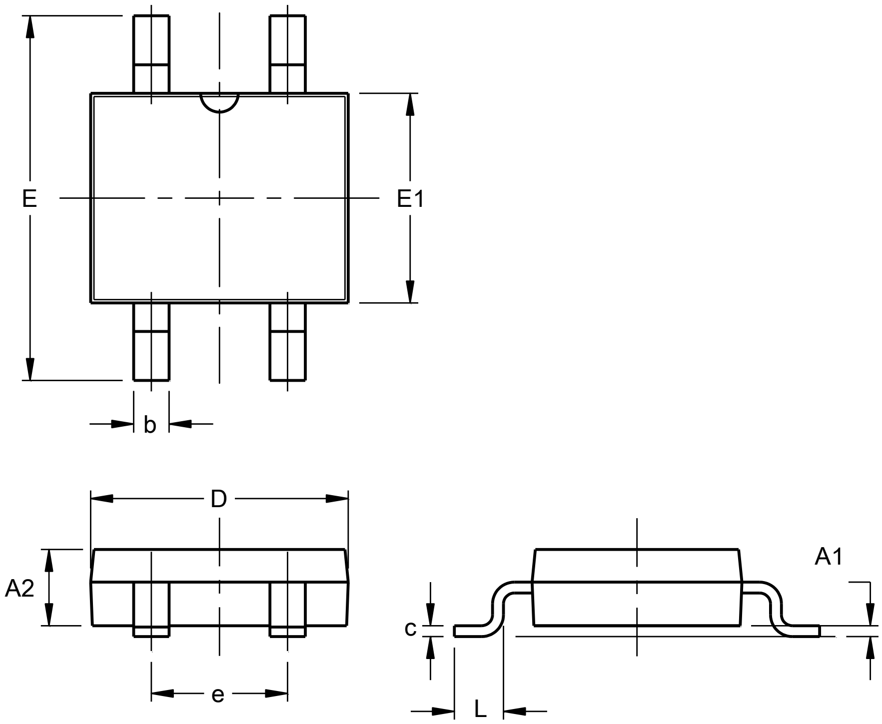


Figure 6. Forward Power Dissipation

Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

MBF

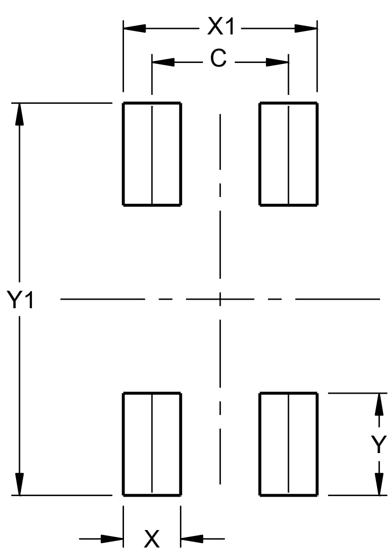


MBF			
Dim	**Min**	**Max**	**Typ**
A1	--	0.20	--
A2	1.20	1.60	--
b	0.50	0.80	--
c	0.15	0.35	--
D	4.50	4.95	--
E	6.40	7.00	--
E1	3.60	4.10	--
e	2.30	2.70	--
L	0.70	1.10	--
All Dimensions in mm			

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

MBF



Dimensions	Value (in mm)
C	2.50
X	1.050
X1	3.55
Y	1.875
Y1	7.20

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